

WHAT IS CLAIMED IS:

1. A drive unit comprising:
 a primary side comprising a magnetic body
around which a coil is wound; and
 a secondary side comprising a plurality of
permanent magnets, an irregular magnetic plate, or a
conductor plate; wherein
 the primary side includes a magnetic pole in
which a step portion is provided.
2. A drive unit comprising:
 a first core having first opposed portions;
 a second core having second opposed portions;
 a primary side including the first core and
the second core, around which primary side a coil is
wound; and
 a secondary side disposed between the first
opposed portions and between the second opposed
portions; wherein
 the primary side is provided with a step
portion.
3. A drive unit comprising:
 a first core having first opposed portions;
 a second core having second opposed portions;
 a primary side including the first core and
the second core, around which primary side a coil is
wound; and
 a secondary side disposed between the first
opposed portions and between the second opposed

portions; wherein

at least one of the first opposed portions and the second opposed portions is provided with a step portion.

4. The drive unit according to claim 1, wherein the height of the step portion is larger than the distance of an air gap between the primary side and the secondary side.

5. The drive unit according to claim 2, wherein the height of the step portion is larger than the distance of an air gap between the primary side and the secondary side.

6. The drive unit according to claim 3, wherein the height of the step portion is larger than the distance of an air gap between the primary side and the secondary side.

7. The drive unit according to claim 2, wherein each of the first core and the second core comprises an upper magnetic pole tooth and a lower magnetic pole tooth, the height of the step portion being smaller than the width of the upper magnetic pole tooth or the lower magnetic pole tooth.

8. The drive unit according to claim 3, wherein each of the first core and the second core comprises an upper magnetic pole tooth and a lower magnetic pole tooth, the height of the step portion being smaller than the width of the upper magnetic pole tooth or the lower magnetic pole tooth.

9. The drive unit according to claim 1, wherein
 the secondary side comprises a permanent
magnet, the width of the step portion being smaller
than the width of the permanent magnet.
10. The drive unit according to claim 2, wherein
 the secondary side comprises a permanent
magnet, the width of the step portion being smaller
than the width of the permanent magnet.
11. The drive unit according to claim 3, wherein
 the secondary side comprises a permanent
magnet, the width of the step portion being smaller
than the width of the permanent magnet.
12. The drive unit according to claim 3, wherein
 each of the first core and the second core
comprises an upper magnetic pole tooth and a lower
magnetic pole tooth,
 the secondary side comprises a permanent
magnet,
 the step portion comprises a protrusion
provided on the upper magnetic pole tooth or and a
lower magnetic pole tooth so as to protrude therefrom
toward the secondary side, the height of the protrusion
being smaller than the widths of the upper magnetic
pole tooth and the lower magnetic pole tooth, the width
of the protrusion being smaller than the width of the
permanent magnet.